Issued June 1938

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
EAST CENTRAL DIVISION

1938 AGRICULTURAL CONSERVATION PROGRAM EAST CENTRAL REGION

PART I. PROCEDURE FOR DETERMINATION OF PERFORMANCE

These instructions outline the method of establishing proof of performance in accordance with the provisions of the 1938 Agricultural Conservation Program including 1938 crop acreages and land uses and the soil-building practices carried out under the program.

State supervisors working under the direction of the State office will visit each county as soon as possible after the local supervisors start working. The State supervisors will check at least one farm reported by each local supervisor and at least 2 percent of all farms in each county. Not less than one-half of the local supervisor's reports which are checked in each county will be selected at random. The State supervisor will check such part of the local supervisor's report on a farm as is required for him to become satisfied that the report is accurate. A list will be kept of the farms which are checked and a complete report will be made of any errors that are found. A copy of such report on each farm checked by the State supervisor will be filed in the county office and a copy will be filed in the State office. Local supervisors will not be paid until their work has been checked by the State supervisor. The State office will furnish monthly a summary of the reports to the Director of the East Central Division.

SECTION 1. ASSEMBLING IN COUNTY OFFICE NECESSARY FORMS AND INFORMATION FOR LOCAL SUPERVISORS

A. **Assemble for each farm:**

1. Form ECR–218, "Supervisor's Farm Report—1938."
2. Form ECR–217, "Farm Sketch Map" (aerial photograph, if available).
3. Form ECR–113, "Farm Sketch Map" for 1937, if available.

The above forms for each farm should be placed in an individual 9 by 12 inch envelope so as to guard against loss or confusion with other forms. The operator's name, the farm serial number, and aerial photograph number, should be shown on the outside of the envelope so as to facilitate handling.

B. **Make the following entries** on Form ECR–218 at the county office prior to delivery to the supervisors:

1. State and county code, 1938 serial number, aerial photo number, if applicable, and the name and address of the 1938 operator in the spaces provided;

2. In section II, the acreage allotments for tobacco, cotton, peanuts, potatoes, corn, wheat, and general soil-depleting crops; the total soil-depleting acreage allotment; and the number of units in the soil-building goal.

3. In section III, the description and location of the farm;

4. In section V, the last planting date for cotton, if available.

SEC. 2. PROCEDURE FOR LOCAL SUPERVISORS

A. Receive from the county office a number of sets of forms for such number of farms as can be visited and checked for performance within a reasonable period of time.

Supervisors should keep the set of forms for each farm in a separate envelope.

B. Visit the farm and, if possible, get the 1938 operator to assist in checking performance. If the operator is unable to assist, he should designate some one as his representative to assist the supervisor. The supervisor should not go upon any farm for the purpose of checking performance thereon if the operator objects. If the operator of a farm will not permit the supervisor to check performance thereon, a note to that effect should be entered on the Supervisor's Farm Report for such farm and should be followed by the signature of the supervisor and the date of the refusal.

The operator should be notified in advance of the visit, if practicable.

C. Determine the acreages of crops and other land uses for each farm expected to participate in the 1938 Agricultural Conservation Program and determine the acreage of cropland and the acreage of tobacco and cotton for each other farm on which cotton or tobacco are grown as follows:

1. In the case of farms for which aerial photographs are used all areas required in the supervisor's report will be determined by measurements made from the photograph.

2. In the case of farms for which aerial photographs are not used:

(a) For farms for which an individual soil-depleting acreage allotment is established, farms for which a total soil-depleting acreage allotment of more than 40 acres is established, and other farms for which it appears that the 1938 acreage of soil-depleting crops exceeds 50 acres—

(1) Measure, unless accurate measurements are already available, the acreage of each soil-depleting crop. In case two or more general soil-depleting crops are grown in the same field, the acreage of the entire field may be measured and the proportion of the field occupied by each such crop estimated by the supervisor.

(2) Make a careful estimate of the acreage on which each soil-building practice was carried out, unless such acreage is measured in connection with the determination of the acreage of soil-depleting crops or unless acceptable measurements are already available.

(3) Make a careful estimate of the acreage of all crops which are not soil-depleting and of other land uses.

(b) For farms for which no individual soil-depleting acreage allotment is established, and for farms for which the total soil-depleting acreage allotment is 40 acres or less, on which it is evident that the 1938 acreage of soil-depleting crops is substantially less than 50 acres—

(1) Make a careful estimate of the acreage on which each soil-building practice was carried out on the farm.

(2) Obtain the operator's estimate of the acreage of each soil-depleting crop and other crops and land uses on the farm in 1938. If the operator's estimate appears to be incorrect, or if performance was not checked on the farm in 1937, the supervisor should make a careful estimate of such acreage.

In making careful estimates, consideration should be given to the shape of the field and the approximate major dimensions of the field should be determined by stepping or other approximation. This does not contemplate the measuring of angles or short turns but rather squaring up the field and estimating the acreage from the approximate dimensions determined in this manner.

The supervisor should visit each field for which the acreage is to be determined either from aerial photographs or ground measurements or careful estimates and should walk around and across the field sufficiently to determine the crops grown thereon.

For farms not expected to participate in the 1938 program but on which the acreage of tobacco or cotton is determined by the supervisor, the operator's estimate of the acreage of other soil-depleting crops should be obtained.

D. **The 1938 Farm Sketch Map** should be made on Form ECR–217 at the time the supervisor checks performance, unless a satisfactory map is available. The actual shapes of the fields should be shown as nearly as possible, and where measurements are made, should be recorded thereon in the proper place. The 1937 Farm Sketch Map, Form ECR–113, will be helpful in making the 1938 Farm Sketch Map. Each field should be shown in approximate location and be identified by a number: 1, 2, 3, etc., assigned to each field in a systematic arrangement. Subdivisions of the same field may be shown as 1–A, 1–B, 1–C. If there is likely to be any confusion of field numbers with other figures entered on the map, the field number should be *circled*.

In case it is necessary to make ground measurements or to record notes in connection with the checking of performance with photographs, such entries will be made on Form ECR–217.

E. **Execution of Form ECR–218** by Supervisor.—1. Farm field report (Sec. I of Form ECR–218). This section should be filled in by the supervisor at the time he checks performance and the entries for each field should be made in the course of inspecting the field. The supervisor will make no entries in columns marked with an asterisk (*).

Column A: The field number entered in column A should agree with the field number on the farm sketch map or photograph. Indicate subdivisions of fields as 1–A, 1–B, etc., where two or more crops are grown in the same field or a soil-building practice is performed on a part thereof. If two or more producers have

separate acreages of the same crop in a field, a subdivision of the field should be shown for each producer, and the acreage in each producer's separate crop should be shown. For example: A 30-acre field of cotton is shared as follows: John T. Smith, landlord, gets one-fourth of 30 acres; Sam B. Jones, share-tenant, gets one-fourth of 30 acres; Joe S. Brown, sharecropper, gets one-half of 20 acres; and Tom J. Green, sharecropper, gets one-half of 10 acres. In such case the subdivisions of the fields should be shown as 1–A and 1–B and 20 acres and 10 acres, respectively, will be entered in column B. The sharecroppers should be shown in column K once each and the share-tenant should be shown twice in column K.

Column B: Where the acreage in a field is determined by the supervisor (or where the acreage is already available), such acreage should be entered in column B. If the acreage in the field is determined by careful estimate by the supervisor, the estimated acreage entry should be made in column B as follows: E–10, E–15, etc. In case the acreage is to be determined in the county office, the operator's statement or rough approximation by the supervisor of the acreage in the field or subdivision thereof should be noted in column C.

Column C: Show the crops grown, including green manure crops or crops pastured on each field in 1938. (Small grains seeded in the fall of 1938 should not be shown in column C.)

Columns D, E, F, and G: The acreage of cropland in each field will be shown in column D if a soil-depleting crop has been produced thereon; in column E if non-depleting other than idle; while the acreage of idle cropland will be shown in column F. Any acreage of noncrop land included in the field will be shown in column G.

The uses of columns B, C, D, E, F, and G are illustrated by the following examples:

Example 1. A 10-acre field which was devoted to early potatoes followed by corn and then followed by winter oats and crimson clover should be shown as follows: In column B, the figure "10" should be entered. In column C, three entries should be made as follows: "1-Early Potatoes" and immediately thereunder "2-Corn" and immediately thereunder "3-Crimson Clover" so that the three crops are listed in vertical sequence. In column D the following entries should be made: Immediately opposite the entry "1-Early Potatoes" should be entered "10"; and immediately opposite "2-Corn" should be entered and *circled* "10". In column E there should be entered and *circled*, immediately opposite "3-Crimson Clover", "10".

If the sequence of crops on an entire field is not the same, each part of the field on which the sequence is the same should be considered as a subdivision of the field as 1–A, 1–B, etc., and entered accordingly.

Example 2. A 10-acre field, 5 acres of which was devoted to early potatoes, the entire acreage then planted to corn and 6 acres then seeded to crimson clover, should be shown as three field subdivisions as follows:

1–A.—Five acres of early potatoes followed by corn, followed by crimson clover. The figure "5" should be entered in column B, and in column C the description of the three crops should be entered in vertical sequence as "1–Early Potatoes", "2–Corn", "3–Crimson Clover". In column D immediately opposite "1–Early Potatoes" should be entered "5" and immediately opposite "2–Corn" should be entered in column D and *circled* "5". In column E immediately opposite "3–Crimson Clover" should be entered and *circled* "5".

1–B.—Four acres of corn will be shown by entering "4" in column B and immediately opposite "Corn" in column D should be entered "4".

1–C.—One acre of corn followed by crimson clover will be shown by entering "1" in column B and in column C "1–Corn" and "2–Crimson Clover". In column D immediately opposite "1–Corn" should be entered "1" and in column E immediately opposite "2–Crimson Clover" should be entered and *circled* "1".

Example 3. A 10-acre field devoted to soybeans for hay and then seeded to crimson clover should be shown as follows: In column B should be entered the figure "10"; in column C, enter "1–Soybean Hay" and immediately thereunder "2–Crimson Clover"; in column E immediately opposite "1–Soybean Hay" enter "10" and opposite "2–Crimson Clover" enter, in column E, "10", *circled.*

Example 4. A 30-acre field of open noncrop pasture should be shown as follows: In column B enter the figure "30"; in column C "Open Noncrop Past."; and in column G, the figure "30." The acreage of such pasture which is fenced and which the supervisor estimates will carry at least one animal unit for each five acres of such pasture during the normal pasture season should also be entered in column G and *circled.* That is, if the supervisor estimates that 20 acres of the 30-acre pasture would support an animal unit for each five acres thereof and is fenced, there should also be entered in column G, immediately above the figure "30," the figure "20," *circled.*

Example 5. A 10-acre field, one acre of which is idle cropland, one acre of which is waste or non-cropland, and 8 acres of which were devoted to wheat cut for grain or hay in 1938, should be shown as follows: In column B enter the figure "10"; in column C enter "Wheat cut"; in column D enter the figure "8"; in column F, the figure "1"; and in column G, the figure "1."

Example 6. A 10-acre commercial orchard should be shown as follows: In column B, enter the figure "10"; in column C, "Commercial orchard"; and in column G, the figure "10." If a soil-depleting crop is grown in a commercial orchard, the acreage of the soil-depleting crop should be entered in column D with the notation "Noncrop." Such acreage will be included in determining the acreage of the soil-depleting crop grown but will not be counted as cropland. If the acreage is to be determined in the county office, the proportion of the area in the soil-depleting crops should be shown in column C.

Example 7. A 20-acre noncommercial orchard in which 10 acres of corn was interplanted should be shown as follows: In column B, enter the figure "20"; in column C, "Corn in Non-Commercial

Orchard"; in column D, the figure "10"; and in column E, the figure "10."

The above examples are designed for using only one field space for each field or subdivision thereof. If the crops grown in a field are shared by different producers, the acreage in which each of such persons share should be considered as subdivisions of the field and two spaces should be used.

Column H: Enter in column H the practice code and description of each soil-building practice as shown in section 4 below of these instructions.

If a seeding practice is carried out in connection with a soil-depleting crop, the name of the soil-depleting crop (including small grains seeded in the fall of 1938) should be shown in the description of the practice. In the case of the application of fertilizing materials such as superphosphate, basic slag, or potash, the crop or crops to which such application was made and the analysis of the fertilizer should be clearly indicated in the description of the practice. For example: If an application of 20 percent superphosphate is made in connection with the seeding of bluegrass seeded in connection with wheat, the description should include "20 percent Superphosphate on Bluegrass with Wheat."

In the case of a mixed fertilizer, the supervisor should enter the quantity and analysis of the material in column H and the county office should compute the equivalent of superphosphate and potash and enter the result in column I.

In States where the practice of green manure crops turned under or left on the land on vegetable farms is applicable (Delaware, Maryland, Virginia, and North Carolina), the supervisor will enter the acreage of green manure crops turned under or left on the land as practice H–1 with the appropriate description for this practice. In such States the county office will determine if the average acreage of commercial vegetables grown on the farm in 1936 and 1937 is in excess of 50 percent of the acreage of cropland on the farm in excess of the sum of the potato, tobacco, cotton, and peanut acreage allotments for the farm and if it is found to be in excess, will revise the entry to H–2 with the proper description as "H–2 Soybeans turned on Vegt. Farm."

Column I: The total quantity of the materials used in connection with each practice such as pounds of seed used in seeding practices, the total pounds of lime or superphosphate or potash applied, or the total linear feet of terrace constructed, should be recorded in column I.

Column J: The respective acreages on which soil-building practices were carried out should be entered in this column.

Where two or more producers shared in carrying out any practice, the letters PS in parentheses—thus (PS)—should be placed beside the name of the share-tenant or sharecropper in column K to indicate that a share of the practice is to be credited to the tenant or cropper. Similarly, the letters (PS) should be placed at the right-hand margin of the line on which the practice is recorded (at the right of the figure representing the number of the line) if a part of the practice is to be credited to the landlord. Where only one producer carried out all the practices for the entire farm, his name should be entered above column H.

Notes on carrying out of practices by different producers which cannot be clearly shown as indicated above may be made on Form ECR–217 or Form ECR–218.

In determining whether a person contributed to the carrying-out of a soil-building practice which entitled him to share in the payment therefor, consideration should be given to cash expenditures made in carrying out the practice (as in purchasing seed, fertilizer, or other materials or employing labor) and to labor performed without compensation.

Column K: This column (as well as the accompanying columns L, M, N, and O) will not be used except where there is a share-tenant or a share cropper, who has a share in a soil-depleting crop for which an individual acreage allotment is established or who has contributed to the carrying-out of a soil-building practice carried out on the farm. If a share-tenant or sharecropper has a share in such a crop or contributed to the carrying-out of a practice, these columns will be used for the fields or subdivisions thereof on which is grown a soil-depleting crop for which an individual acreage allotment is established or on which a soil-building practice is carried out. The name and address of the tenant should be listed on the upper half of the line and the name and address of the sharecropper should be listed on the lower half of the line. The landlord's name will not be listed in column K. For example: If cotton or a commercial wheat crop is shared by the landlord John T. Smith, share-tenant Sam B. Jones, and sharecropper Joe S. Brown, the name Sam B. Jones will be entered on the upper half of the line in column K and the name Joe S. Brown will be entered on the lower half of the line in column K. The name John T. Smith will be entered in the space provided above columns N and O.

Column L: Enter in column L for each field, or subdivision of a field, the fractional share of the soil-depleting crop (or the proceeds thereof) to which the share-tenant or sharecropper is entitled.

Columns M and O: The supervisor will make no entries in these columns.

Column N: Enter in column N the fractional share of the landlord in the soil-depleting crop for each field. If there is no share-tenant or sharecropper and the landlord receives all of the crops, the word "All" may be entered at the top of the column.

2. Other farms in which any producer on this farm has an interest (Sec. IV of Form ECR–218). The supervisor should identify carefully other farms in the county in which any producer on the farm has an interest. Serial numbers or descriptions may be used. He should also enter the number of farms in each other county within the State in which any producer on the farm has an interest and should show clearly which producers are so interested. If this information is not available for any producer, a notation to that effect should be entered by the supervisor.

3. Number of milk cows—Last planting date for cotton (Sec. V of Form ECR–218). The supervisor should enter the number of milk cows on the farm at the time of checking performance. Any cow on the farm which has been milked in the past twelve months will be

considered as a milk cow. The supervisor should also enter the "Usual number of milk cows on this farm," that is, the average number of milk cows kept on the farm in the period 1933–1937, omitting any years when the number of milk cows on the farm was abnormally high or abnormally low.

The supervisor will enter, if such entry was not made in the county office, the last date on which cotton was planted on the farm in 1938, in the space provided.

4. Operator's certificate (Sec. VI of Form ECR–218). The signature of the operator (or of his representative) should be obtained at the time performance is checked by the supervisor after the Form ECR–218 has been filled in (with the exception of the entries which require computations by the county office).

SEC. 3. CHECKING SUPERVISOR'S REPORT IN COUNTY OFFICE

Supervisors should deliver or mail completed farm reports to the county office at the end of each day for the first week during which they work, and thereafter as instructed by the county office, but at least once each week. The supervisor's report should be checked promptly upon receipt at the county office. The supervisor should be advised, without delay, of any errors he has made and should be instructed to make any necessary corrections and to obtain any information which is missing on his report. Promptness in checking the supervisor's reports will save much time and effort.

After making any necessary computations and checking for accuracy the supervisor's report on Form ECR–218, the county office should enter the State and county code, the serial number, aerial photo number, if applicable, and the name and address of the operator in the spaces provided on Form ECR–219, together with the data provided in Sections I, II and III of the form.

A. **Preparation of Sections I and II of the "Summary of Supervisor's Farm Report," Form ECR–219.**

1. **Farm acreages for 1938** (Sec. I of Form ECR–219).—The total 1938 acreage for each soil-depleting crop on the farm should be entered in the spaces provided. If two or more soil-depleting crops were grown on the same acreage, only one of the crops should be counted in the acreage totals for the farm (except as provided herein) and the acreage figure for the other crop(s) should be entered and *circled*. If a crop for which an individual soil-depleting acreage allotment is established in 1938 on land used also for a general soil-depleting crop in 1938, the acreage of the general crop should be *circled*. If a soil-depleting crop for which an individual acreage allotment is established is followed by another such soil-depleting crop, both acreages should be counted in the total and a note of explanation entered on the Form ECR–219. A note should also be entered on the form explaining any acreage of a soil-depleting crop which was interplanted in a commercial orchard.

In line 18 should be entered the totals of the 1938 acreage figures in lines 1 to 17, inclusive, which are not circled.

In lines 19 to 30, inclusive, the names and acreages of non-depleting crops should be entered. For example: 10 acres of alfalfa should be shown as "Alfalfa" and the figure "10" entered in the column headed

"Acres." In the case of 10 acres of lespedeza grown with wheat cut for grain or hay, the words "Lesp. in Wheat cut" should be shown and the figure "10," *circled*, entered in the column headed "Acres." In such case, the wheat would have been shown as a depleting crop. Ten acres of crimson clover following 10 acres of corn should be listed "Crimson Clover—Corn" and the figure "10" entered and *circled* in the column headed "Acres." In such case, the corn would have been shown as a soil-depleting crop.

Ten acres of lespedeza cut for hay followed by crimson clover will be shown on line 19 as "Lespedeza" and the figure "10" entered in the column headed "Acres," and on the following line as "Crimson Clover after Lespedeza" and the figure "10" entered in the column headed "Acres" and *circled*.

In line 30 should be entered the acreage of non-commercial orchards and vineyards less any acreage occupied by interplanted crops. The total acreage of non-commercial orchards should be entered in line 30 immediately to the left of the column headed "Acres."

In line 31 should be entered the acreage of idle cropland.

In line 32 should be entered the total 1938 acreage of cropland as determined from the 1938 supervisor's report. If the sum of the items 1 to 31, inclusive, exceeds the total cropland because of the inclusion of the acreage of two soil-depleting crops for which individual acreage allotments were established, grown on the same land, or a soil-depleting crop grown in a commercial orchard, the sum of the acreages of such items will be entered and *circled* above the cropland figure.

Enter in lines 32, 33, 34, 35, and 36 immediately to the left of the "Acres" column the acreage of total cropland, commercial orchards, open noncrop pasture, other non-cropland, and total farm land from Form ECR–206 or Form ECR–207.

In line 33 should be entered the acreage of commercial orchards and vineyards as determined by the 1938 supervisor.

In line 34 should be entered the acreage of open noncrop pasture as determined from the 1938 supervisor's report. In addition, there should be entered in line 34 and *circled* the supervisor's estimate of the acreage of fenced, open, noncrop pasture land capable of carrying at least one animal unit for each 5 acres thereof during the normal pasture season.

In line 35 should be entered the acreage of other non-cropland as shown on the supervisor's report.

In line 36 should be entered the correct acreage of farm land.

2. **Soil-building practices** (Sec. II of Form ECR–219).—Enter in the space provided on Form ECR–219 the proper code and description (as outlined in Sec. 4 of these instructions) of each approved soil-building practice carried out on the farm not later than October 31, 1938. The quantity of material used and the acres on which each practice was carried out will be shown, respectively, in the columns headed "Quantity" and "Acres." The units of practices carried out should be entered in the column headed "Units." This will enable the county office to determine whether or not the soil-building goal has been achieved. If the

goal has not been achieved, the county office may desire to suggest to the operator the carrying out of additional practices.

The county office will check each soil-building practice entered to determine if the practice is consistent with the crops and land uses on the farm. If any doubt exists with respect to the practice, the entry should be verified before the report is accepted as correct.

Examples follow:

Ten acres of alfalfa seeded with 200 pounds of seed should be shown in the first column as "G–Alfalfa" (G– in this case being the code, and alfalfa being the description of the practice), in the column headed "Quantity," "200 pounds" and in the "Acres" column the figure "10."

Ten acres of crimson clover turned under as green manure should be shown in the "Practice" column as "H–1 Crimson Clover turned" and the figure "10" should be entered in the "Acres" column.

Fifteen acres of forest trees planted should be shown as "J–Planting Trees" and the figure "15" entered in the "Acres" column.

Five acres of woodland on which a stand of forest trees is improved should be shown as "1–Improving Forests" and the figure "5" entered in the "Acres" column.

Twenty thousand pounds of lime applied on 8 acres should be shown as "F–1 Limestone" in the "Practices" column, "20,000 pounds" entered in the "Quantity" column, and the figure "8" in the "Acres" column. 10,000 pounds of burnt lime applied on 10 acres should be shown as "F–1 Lime-Burnt, 10,000 pounds" in the "Practices" column, the ground limestone equivalent "20,000 pounds" should be entered in the "Quantity" column, and the figure "10" entered in the "Acres" column.

Four hundred pounds of 16 percent (20 percent in Delaware, Kentucky, and West Virginia) superphosphate applied to 1 acre of red clover should be shown as "A–1 16% phosphate Red Cl." in the "Practices" column, the figure "400 pounds" entered in the "Quantity" column and the figure "1" should be entered in the "Acres" column.

Five hundred pounds of triple superphosphate applied to 6 acres of red clover grown with wheat should be shown as "A–4 Triple Superphosphate Red Cl. and Wheat" in the "Practices" column, the figure "500 pounds" should be entered in the "Quantity" column and the figure "6" in the "Acres" column. (In case of triple superphosphate, no conversion will be made and the number of pounds of the concentrated material will be shown.)

The summary of practices should be checked against the supervisor's entries in order to assure accuracy.

The number of units of each soil-building practice carried out on the farm should be determined by the county office on the basis of the unit equivalents for such practices set forth in ECR–201 and should be entered in the "Units" column.

B. **Soil-Building Goal.**—As items 1, 2, 3, and 4, respectively, of section III of Form ECR–219, enter from Form ECR–208 (or 209), or Form ECR–206 (or 207), the average acreage of commercial vegetables grown in 1936 and 1937; the acreage of commercial orchard on the farm, January 1, 1938; the acreage of fenced noncrop open

pasture in excess of one-half of the cropland (capable of carrying at least one animal unit on each five acres during the normal pasture season); and the number of units in the soil-building goal for the farm.

C. **Division Among Producers of Soil-Depleting Crops and Practices.**—

1. **Soil-depleting crops.**—The soil-depleting acreage shares should be entered in columns M and O of Form ECR–218 for each field in the case of soil-depleting crops for which an individual acreage allotment is established. Form ECR–116, "Tabulation of Crops and Practices," may be used for the purpose of summarizing for each producer his acreage share of each of such crops.

In such case, the name of the producer should be written on Form ECR–116 in the column provided. The names of the crops should be written across the top of the form in the spaces provided and the acreage share of each producer would be entered for each field under the column used for the crop. These acreage shares should then be totalled.

Separate totals as indicated above will be made for each producer for each crop for which an individual soil-depleting acreage allotment is established.

2. **Soil-building practices.**—Each soil-building practice will be divided on the basis of the information shown in the supervisor's farm report as to the producers sharing in the practice. This may be done on Form ECR–116.

Where the letters "(PS)", indicating the different producers who incurred expense in carrying out a soil-building practice on a given acreage, were entered by the supervisor beside the names of such producers, the acreage of the practice (or the quantity in the case of lime phosphate, potash, or terraces) should be divided equally among such producers, unless the county committee determines that the contributions of the different producers were not in equal proportions, in which event the practice shall be divided in the proportion which the committee determines each such producer contributed thereto.

SEC. 4. CODES FOR USE IN RECORDING SOIL-BUILDING PRACTICES

Practice	Code	Example of description	Statement of practice
Improving land by use of superphosphate.	A–1	16% phosphate on lespedeza,	Superphosphate applied to, or in connection with the seeding of, perennial or biennial legumes, perennial grasses, winter legumes, lespedeza, crotalaria, or permanent pasture. (300 lbs. of 16 percent or 240 lbs. of 20 percent material will count 1 unit.)
		or	
	A–1	20% phosphate on bluegrass.	
	A–2	16% phosphate on timothy with wheat,	Superphosphate applied to, or in connection with the seeding of, perennial or biennial legumes, perennial grasses, winter legumes, lespedeza, crotalaria, or permanent pasture seeded or grown in connection with a soil-depleting crop. (600 lbs. of 16 percent or 480 lbs. of 20 percent material will count 1 unit.)
		or	
	A–2	20% phosphate on crimson clover with oats.	

SEC. 4. CODES FOR USE IN RECORDING SOIL-BUILDING PRACTICES—Continued

Practice	Code	Example of description	Statement of practice
Improving land by use of superphosphate.	A–3	Triple phosphate on noncrop pasture.	Triple superphosphate applied to, or in connection with the seeding of, perennial or biennial legumes, perennial grasses, winter legumes, lespedeza, crotalaria, or permanent pasture. (100 lbs. will count 1 unit.)
	A–4	Triple phosphate on redtop and clover with wheat.	Triple superphosphate applied to, or in connection with the seeding of, perennial or biennial legumes, perennial grasses, winter legumes, lespedeza, crotalaria, or permanent pasture seeded or grown in connection with a soil-depleting crop. (200 lbs. will count 1 unit.)
Improving land by use of potash.	B–1	Potash on red clover.	Potash applied to, or in connection with the seeding of, perennial or biennial legumes, perennial grasses, winter legumes, lespedeza, crotalaria, or permanent pasture. (200 lbs. of 50 percent muriate (or equivalent) will count 1 unit.)
	B–2	Potash on red clover with wheat.	Potash applied to, or in connection with the seeding of, perennial or biennial legumes, perennial grasses, winter legumes, lespedeza, crotalaria, or permanent pasture seeded or grown in connection with a soil-depleting crop. (400 lbs. of 50 percent muriate (or equivalent) will count 1 unit.)
Improving land by use of basic slag, rock phosphate, or colloidal phosphate.	C–1	Basic slag on vetch.	Basic slag, rock phosphate, or colloidal phosphate applied to or in connection with the seeding of, perennial or biennial legumes, perennial grasses, winter legumes, lespedeza, crotalaria, or permanent pasture. (500 lbs. will count 1 unit.) (Practice not applicable in West Virginia.)
	C–2	Rock phosphate on Austrian peas with oats.	Basic slag, rock phosphate, or colloidal phosphate applied to, or in connection with the seeding of, perennial or biennial legumes, perennial grasses, winter legumes, lespedeza, crotalaria, or permanent pasture seeded or grown in connection with a soil-depleting crop. (1,000 lbs. will count 1 unit.) (Practice not applicable in West Virginia.)
Improving land by terracing.	D	Terracing	Construction of standard terrace for which proper outlets are provided. (200 linear feet will count 1 unit.) (Practice not applicable in West Virginia.)

SEC. 4. CODES FOR USE IN RECORDING SOIL-BUILDING PRACTICES—Continued

Practice	Code	Example of description	Statement of practice
Reseeding depleted pastures.	E	Reseeding pasture.	Reseeding depleted pastures with good seed of adapted pasture grasses or legumes. (10 lbs. of seed will count 1 unit.) (Practice not applicable in West Virginia.)
Improving land by use of ground limestone.	F–1	Ground limestone, or Burnt lime.	Ground limestone or equivalent applied to land at a rate of not less than 1,000 pounds per acre of ground limestone. (The amount which will count a unit will be found in the State Bulletin.)
	F–2	Limestone—Fine__	Finely ground limestone (at least 90 percent to pass through a 30-mesh sieve and all finer particles obtained in the grinding process to be included) except to peanuts, flue-cured tobacco, and commercial vegetables, at a rate of not less than 500 pounds nor more than 1,000 pounds per acre. (1,000 lbs. will count 1 unit.) (Practice not applicable in West Virginia.)
Seeding legumes and grasses.	G	Seeding lespedeza, or seeding approved red clover.	Seeding kudzu, alfalfa, sericea, approved red clover, alsike clover, sweet clover, white clover, bur clover, crotalaria, bluegrass, orchard grass, reed canary grass, carpet grass, Dallis grass, vetch, Austrian winter peas, crimson clover, annual lespedeza, annual ryegrass, or mixtures of such legumes and perennial grasses other than a mixture consisting solely of timothy and redtop. (Each acre will count 1 unit.)
Growing green manure crops and cover crops.	H–1	Rye turned, or soybeans left on land.	Green manure crops: Soybeans, velvet beans, cowpeas, crimson clover, Austrian winter peas, vetch, rye, barley, wheat, buckwheat, oats, Sudan grass, millet, sorghum, sown corn, or mixtures of any two or more of such crops, of which a good stand and good growth is plowed or disced under as green manure. A good stand and good growth of soybeans, velvet beans, cowpeas, sweet clover in orchards, or rye, left on the land as a temporary mulch. Summer legumes interplanted or grown in combination with soil-depleting crops, green manure crops counted under Practice H–2 below, and 1938 seedings of sweet clover in orchards will not be counted under this Practice H–1. (Each acre will count 1 unit.)

SEC. 4. CODES FOR USE IN RECORDING SOIL-BUILDING PRACTICES—Continued

Practice	Code	Example of description	Statement of practice
Growing green manure crops on vegetable farms.	H–2	Soybeans turned on vegetable farm.	On any farm where the average acreage of land on which commercial vegetables were grown in 1936 and 1937 exceeds 50 percent of the acreage of cropland in the farm in excess of the sum of the potato, tobacco, cotton, and peanut acreage allotments established for the farm, green manure crops, including soybeans, velvet beans, cowpeas, crimson clover, Austrian winter peas, vetch, rye, barley, wheat, buckwheat, oats, Sudan grass, millet, sorghum, sown corn, or mixtures of any two or more of such crops, of which a good stand and good growth is plowed or disced under as green manure. (Each acre will count 2 units.) (Practice not applicable in Kentucky, Tennessee and West Virginia.)
Improving stands of forest trees.	I	Improving forests.	With prior approval of the county committee improving a stand of forest trees under such approved system of farm woodlot management as is specified by the Agricultural Adjustment Administration. (Each acre will count 2 units.)
Planting forest trees.	J	Planting trees.	Planting forest trees, provided such trees are protected and cultivated in accordance with good tree-culture practice. (Each acre will count 5 units.)
Summer legumes interplanted with depleting crops.	K	Cowpeas with corn left on land.	Summer legumes (interplanted or grown in combination with soil-depleting crops) of which a good stand and a good growth is plowed or disced under or left on the land. (Each two acres will count 1 unit.)
Seeding timothy or redtop.	L	Seeding timothy.	Seeding timothy or redtop or a mixture consisting solely of timothy and redtop. (Each two acres will count 1 unit.)

The State office should advise the counties of any necessary changes to be made in the schedule of practices to conform to the State bulletin.

U. S. GOVERNMENT PRINTING OFFICE: 1938

Form ECR–216 (Part II) Issued June 1938

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL ADJUSTMENT ADMINISTRATION
EAST CENTRAL DIVISION

1938 AGRICULTURAL CONSERVATION PROGRAM EAST CENTRAL REGION

Part II.—USE OF AERIAL PHOTOGRAPHS IN DETERMINING PERFORMANCE

The following instructions set forth the procedure to be followed in using aerial photographs for the determination of performance under the 1938 Agricultural Conservation Program.

Each supervisor should fully understand the provisions of the 1938 program, and should be thoroughly familiar with the instructions contained in Form ECR–216 Part I, "Procedure for Determination of Performance."

Inasmuch as the purpose of using the aerial photographs is to make possible the accurate determination of the acreage of each crop, of each designated land use, and of each soil-building practice carried out under the program, it is important that all work in connection with each photograph be performed so as to accurately and effectively accomplish this objective.

Section I. PHOTOGRAPHIC MATERIALS TO BE USED

Counties in which aerial photographs are to be used will be provided with the following photographic materials:

(a) **Photographs.**—(1) Scale of photographs.—The photographs (enlargements) on which farms will be identified and from which acreage will be determined will have a scale of 1 inch equals 660 feet (8 inches equals 1 mile). At this scale, 1 square inch is equivalent to 10 acres and 1 lineal inch equals 10 chains.

For some counties the photographs furnished will have scales which will vary from 1 inch equals 660 feet. Where this is the case a correction factor for each enlargement will be furnished by the State office for use in converting areas determined from such photograph to acres, as provided in Section IV (b).

In some cases photographs will be marked off into two or more zones, indicated by lines drawn by the State office. Where this is done a separate factor for the conversion of areas will be furnished for each zone.

(2) Usable area.—The area within which measurements are to be made on each photograph will be indicated by the State office before delivery of the photograph to the county offices. This area is indicated by red lines dividing the overlapping areas of the adjoining prints. In the margin of each photograph will be indicated the number of each overlapping photograph.

(b) **Photo-indexes.**—The photo-indexes furnished will usually be at the scale of 1 inch equals 1 mile. These indexes will show by

74065°—38

serial number the relative location of photographs in the county. The index will also serve to locate the photograph on which any particular farm appears, by the study of the location of highways, towns, railroads, streams, etc.

Upon receipt of photographs and indexes from the State office, the county office should check the letters of transmittal and return a signed copy of each such letter to the State office.

Section II. OFFICE PROCEDURE PRIOR TO CHECKING PERFORMANCE

(a) **Identification of farms before supervisors take the photographs to the field to prepare reports.**—Every farm within the usable area of each photograph should be identified, if possible, and listed on Form ECR–214. To do this the supervisors and the committeemen who are most familiar with the farms in the area should be called into the office. Usually, the county agent, supervisor, and one or two committeemen in the office can identify most of the farms in a given community. The supervisor will identify any remaining farms within the usable area of the photograph while checking performance, and will list them on Form ECR–214.

In noting the identification of farms on the photograph either of the following optional methods may be used.

(1) Optional method.—Using a *red pencil* (or other color specified by the State office), place the serial number for each farm within the usable area on the photograph near the farm buildings or center of the farm. These numbers should be in small clear figures, *circled.* Care should be taken that these figures do not obliterate field boundaries.

(2) Optional method.—The name of the owner and serial number of each farm within the usable area of the photograph should be placed on the *back* of the photograph, within the approximate boundary of the farm. All such names and serial numbers should be written so that they can be read with the photograph in one position, preferably with the reader facing the north side of the photograph.

To insure identification of all farms within the usable area of the photograph, the supervisor should, upon completion of the checking of each farm, hold the photograph to the light and trace the outline of the farm on the back of the photograph. Within this boundary should be placed the name of the owner and the serial number of the farm. If there is an operator other than the owner, his name should be placed within the boundary also.

(b) **Listing farms appearing on overlapping photographs.**—In listing the farms to be checked on each photograph include those for which the larger part of the farm lies within the usable area. The usable area lines are intended as guides to show the amount of overlap with adjoining photographs, and since images near the margins of the photographs are distorted or displaced to a certain extent, the area outside the red lines generally should not be used. However, where only a small portion of the farm is outside the red line and it appears desirable to complete the farm report on one photograph, it will be permissible to check such portion outside the usable area. In many cases, however, it will be advisable to check part of the farm on one photograph and the other part on the adjoining photograph.

In such cases, the farm should not be checked until both photographs can be used on the farm at the same time. To identify the portion of the farm checked on each adjoining photograph, place on the margin of each photograph the farm serial number and the number of the adjoining photograph on which the remaining portion of the farm is checked. Thus: (Serial No. 572—Photo No. 67—212).

(c) **Selection and training of supervisors.**—The careful selection and proper training of the supervisors are extremely important. Only those men should be selected for this work who are capable of performing precise, accurate work with photographs and who have a thorough understanding of the Conservation Program. The training of the supervisors in counties which have not previously used aerial photographs will be conducted over a period of at least 3 days by a qualified person from the State office.

The training will include:

1. A thorough review and drill in the provisions of the 1938 program.
2. Instruction in the field and office on the use of photographs for checking performance.
3. Actual check of performance on one or more farms.
4. Determination by the supervisor of acreage on a farm, using a planimeter or rotometer.
5. Written examination of each supervisor to determine knowledge of the 1938 Agricultural Conservation Program and ability to perform the work.

Section III. FIELD PROCEDURE IN CHECKING PERFORMANCE

The supervisor will find it necessary in each case to obtain the assistance of the farmer or his representative in locating (1) the farm boundary, (2) field boundaries, (3) subdivision of fields showing areas planted to different crops, (4) location and area on which soil-building practices were carried out, (5) location and area of crops of different tenants, (6) other information called for in Form ECR–218. It is extremely important that the supervisor inspect each field on the farm and that he see every part of each field in order that his report may completely cover all crops and practices on the farm and clearly identify all idle and waste areas.

(a) **Farm boundaries.**—A colored pencil (*color to be designated by State office*) should be used for identifying farm boundaries. In woodland, swamp, etc., the farm boundaries need be shown only approximately.

(b) **Field boundaries.**—Each field and subdivision of field used for crops, and fenced noncrop open pasture land, should be identified and the boundaries indicated. Use a colored pencil (*color to be designated by State office*) to show field boundaries. Subdivisions of a field should be shown by broken lines of the same color as that used for field boundaries.

Number each field on the photograph to correspond with the number entered on Form ECR–218, using the same color as that used for indicating field boundaries. When the area of a field is so small that it is impractical to place the number in the field, the number may be written outside the field and tied to it with an arrow.

Where the division between fields, crops, or practices for 1938 cannot be identified on the photograph or where field divisions in 1938 are not the same as when the photograph was taken, the supervisor should make sufficient ground measurements from features which can be identified on the photograph, to show the correct 1938 fields, division between crops, or practices accurately on the photograph. Measurements made by the supervisor to locate field subdivisions should be carefully scaled in on the photograph, using a needle point, with a circle around it to indicate the points located.

In some cases lines will appear on the photograph which are not subdivision lines between the 1938 crops. To indicate that the fields on both sides of such lines should be considered as one field in 1938, place the following symbol across the line. /___/

Utmost care should be exercised by the supervisor in plotting field divisions as the accuracy of these divisions will later affect the accuracy of determining the acreage of each field from the photograph. Every effort should be made to hold to a minimum the marks and notations made on the photograph. A record of measurements and notations on Form ECR–217 should be submitted to the county office in cases where it is necessary to plot field divisions which cannot be accurately located.

(c) **Small areas.**—The following will apply to areas too small or too narrow to be computed accurately from the photographs.

(1) Cropland.—Any field on which is grown a soil-depleting crop for which an individual acreage allotment is established, having an acreage of less than one-half acre or an average width of less than one-half chain, should be measured by the supervisor and the measurements shown on Form ECR–217. In the case of long, narrow areas the supervisor should determine the narrow dimension by ground measurements and indicate this dimension either on Form ECR–217, or in column (c) Form ECR–218, as follows: "Width 0.45 ch." The length will be scaled in the county office and the area computed.

In order to obtain accurate acreage figures for tobacco, cotton, or other soil-depleting crops for which individual acreage allotments are established, it will often be necessary to make deduction for an unused strip of cropland around the border of such fields. In such cases the planimeter or rotometer operator will determine the acreage of the entire field and then deduct the unused land indicated by the supervisor. The supervisor will indicate, by letter, the corners or other points in the boundary of the field, measure the average width to be deducted between such points and make entries on Form ECR–218 such as "Deduct 10 links A–B," "Deduct 18 links B–C." The length of the areas to be deducted will be scaled in the county office, and the areas computed, and entered in the appropriate column of Form ECR–218.

(2) Waste land.—Small areas of uncultivated land such as rock outcroppings, ditches, sink holes, trees, etc., should be indicated on the photograph as accurately as possible but the acreage of such areas should be determined from ground measurements made by the supervisor. These areas of waste or unused land may be designated on the photograph by the letter "*W*" and the area computed by the super-

visor may be placed on the photograph if convenient, or an entry may be made on Form ECR–218 such as "Deduct W—0.4 acres."

Section IV. DETERMINATION OF ACREAGE

Acreage of fields and total crop acreage will be determined from the photographs, after identification of the farm and fields, by the use of planimeter or rotometer. This work will be done by computers in the county office.

(a) **Operation of planimeters and rotometers.**—Instructions furnished for the use and care of each planimeter and rotometer should be carefully followed. Care and precision in the use of these instruments cannot be overemphasized.

Where the photographs furnished have a scale of 1 inch equals 660 feet, and it is not necessary to apply a correction for tilt or ground relief, all computations made with a rotometer, or with a planimeter having a reading scale of unity, may be converted to acres by simply multiplying the accepted reading of the area by 10. Under other conditions, however, it will be necessary to use correction factors.

(b) **Use of correction factors.**—(1) FOR APPROXIMATE SCALE PHOTOGRAPHS.—In a number of counties the photographs being used will be at an approximate scale. In these counties there will be furnished a linear correction factor for each photograph to be applied to lineal measurements made in connection therewith. The rotometer or planimeter operator will be furnished with an acreage correction factor for each photograph by which he must multiply his results in order to secure the correct acreage.

EXAMPLES:

Photo number	*Linear factor*	*Acreage factor*
ABX–6–329	.955	.914
ACC–11–427	1.044	1.090

The exact scale of enlargement ABX–6–329 would be obtained by *multiplying* 660 feet by the linear factor, viz: $660' \times 0.956 = 631'$. Thus, the scale of this enlargement is $1'' = 631'$.

To obtain the correct *distance* between two points on the enlargement, the distance between the points may be measured with an engineer's scale and this measured distance *multiplied* by the linear factor, viz: Scaled distance $= 0.4''$ or 4 "chains." Correct distance $= 4$ times $0.956 = 3.824$ chains.

This type of computation will be used principally where it is desired to make deductions in the county office from field acreages for unused strips of land around the edges of fields or for waste land or other acreages which are to be deducted from the total acreage of a field. In such cases the distances will be scaled on the enlargement in the county office and the correct distance to be used in making computations will be obtained by multiplying the scale distance by the linear factor.

To locate a *point* on the enlargement by scaling, *divide* the distance measured on the ground by the linear factor, viz: Distance measured on ground $= 4$ chains. Distance to scale on enlargement $= 4$ divided by $0.956 = 4.184$ "chains."

This type of computation will be used principally in cases where it is necessary to locate field subdivision lines from measurements

made in the field by supervisors. These measurements will be indicated by the supervisor on a sketch of the field on Form ECR–217.

The correct *acreage* of any field (indicated by the accepted reading) on the enlargement may be obtained by *multiplying* the "acreage" of the rotometer or planimeter by the acreage factor constant, viz: 4 "acres" (as measured by rotometer) $\times 0.914 = 3.656$, the correct acreage.

It is noted that the acreage factor will always be the square of the linear factor.

(2) For tilt or ground relief.—Because of tilt or ground relief some photographs will show black broken lines drawn by the State office, marking out zones with separate correction factors for each. Within the respective zones, these factors will be used in the same manner as that outlined under (1) above.

Where approximate scaled photos are zoned, there will be one correction factor in each zone which will apply in correcting for scale, tilt, and relief.

(3) For planimeters.—With certain planimeters it is necessary to apply correction factors to the readings obtained. Wherever correction factors are used as in (b) or (2) above, the correction factors so used should be multiplied by the correction factor for the planimeter to obtain the correct acreage.

Section V. CARE OF PHOTOGRAPHS

(a) **Handling of photographs in office.**—The photographic material is of considerable value and must be given proper care. Adequate safeguards should be provided in the filing and care of it.

A filing case should be provided for keeping photographs and indexes when actually not in use. Photographs should be protected from moisture and direct sunlight, and should never be rolled or folded. Accurate record should be kept of all photographs taken to field by each supervisor.

(b) **Handling in field.**—A light but rigid board to which the photograph may be fastened, forming a smooth flat surface, should be used by the supervisor in working on photographs in the field. Veneer board, masonite, or celotex are considered most satisfactory for this purpose. Photographs not in actual use should be kept in a suitable case or box.

More efficient work can be done on the field boards if a strap is fastened to the upper corners of the board to be placed over the supervisor's shoulders, and a hook is fastened on the lower edge of the board, to be supported on the supervisor's belt. This will allow the supervisor to have both hands free for use with engineer's scale, magnifying glass, and pencils. A handle fastened at the upper edge of the board is also effective in preventing rubbing of the photograph against the arms or clothes in carrying from field to field. An oil-cloth cover should be fastened to the board for protection of the photograph against weather and other damage.

(c) **Marking on photographs.**—Use should be made only of pencils designated by the State office ("Winner," "Unique," or "Scripto" or other "thin lead") for marking boundary lines and figures on photographs. No notations other than boundary lines and figures should be made on photographs. Pencils must be kept sharp. If

one end of the pencil is sharpened to a point and the other end to a chisel point for use on lines, much better work can be done.

Section VI. EQUIPMENT NEEDED IN COUNTIES USING PHOTOGRAPHY

(a) **In county offices.—**

1. All available maps of the county (to assist in the location of roads and farms).
2. One planimeter for each 5 supervisors, or one rotometer for each 6 supervisors.
3. One magnifying glass for each planimeter or rotometer operator.
4. One photograph filing case.
5. One or more large tables.
6. Supply of red and blue pencils ("Winner," "Unique," or "Scripto").
7. 6-inch, flat, engineer's scales graduated to tenths and hundredths of an inch for each operator.
8. One gooseneck lamp with day-light bulb for each operator.
9. One triangle—30° × 60° (5″) for each planimeter operator.
10. Dividers, or map-measuring sheet, for each operator.

(b) **Supervisor's supplies in field.—**

1. Board, approximately 25″ × 25″, veneer board, masonite, or celotex (on which to fasten photographs for work in field).
2. Oil-cloth cover for board.
3. Case for carrying photographs.
4. Red and blue pencils ("Winner," "Unique," or "Scripto").
5. One 6-inch, flat, engineer's scale graduated to tenths and hundredths of an inch.
6. Magnifying glass.
7. Sandpaper for sharpening pencils.
8. Large binder clips or thumb tacks (for fastening photographs to board).
9. Needles.
10. Tape or chain.

U. S. GOVERNMENT PRINTING OFFICE: 1938